CITY COUNCIL REPORT

Meeting Date: July 1, 2013
General Plan Element: ***Public Services and Facilities***
General Plan Goal: ***Provide a safe environment for all citizens, visitors, and private interests***

ACTION

Engineering Services for Granite Reef Wash Watershed. Adopt Resolution 9456 authorizing engineering services Contract 2013-085-COS, in the amount of $300,617, between the City and TY Lin International for engineering services to be conducted in the Granite Reef Wash Watershed.

BACKGROUND

The purpose of this action is to award an engineering services contract to update the hydrology and hydraulics of the Granite Reef Watershed, which is bounded within the city limits by the SRP canal to the north, Granite Reef Road/ 82nd Street to the west and the SRPMIC boundary to the east and south. The update will include current rainfall data and mapping for the entire 6-square mile watershed for the purpose of determining flow patterns, identifying key interception points, identifying a project outfall location, and providing value engineering in advance of final design.

ANALYSIS & ASSESSMENT

Recent Staff Action

On May 20, 2010, Capital Project Management staff solicited statements of qualifications for a drainage study & design contract from engineering consultants; twelve submittals were received on June 17, 2010. All statements of qualifications were thoroughly evaluated by a panel of seven staff members, which included City staff and representatives of partnering agencies. The firms were evaluated based on their capability and experience, knowledge of the project features, the firm's suggested approach to the design, and project schedule. Based on the scores of statements of qualifications, the selection panel recommended TY Lin International.

Significant Issues to be Addressed

The flooding hazards for this area of the community are considered substantial and potentially damaging for properties along this watercourse. This study seeks to identify a feasible solution to provide 100-year flood protection and eliminate the existing FEMA AE zone designation which

carries a need for mandatory flood insurance for the structures in the Granite Reef Wash corridor between Thomas Road and McKellips Road.

Community Involvement
Pending an identified and approved outfall and final design contract, public outreach and community involvement will be substantial for this project. Meetings will be held with stakeholders and members of the community as the project progresses through the design process.

RESOURCE IMPACTS

Available funding
Funding for this contract is available in CIP Account F0201 Granite Reef Wash Watershed.
A portion of this project is funded by Bond 2000.

Staffing, Workload Impact
The contract administrator responsible for enforcing all contract provisions will be Elaine Mercado, Public Works Division, Capital Project Management Division.

Future Budget Implications
Actual maintenance costs will be determined during final design.

OPTIONS & STAFF RECOMMENDATION

Recommended Approach
Adopt Resolution 9456 authorizing engineering services Contract No. 2013-085-COS, in the amount of $300,617, between the City and TY Lin International for engineering services to be conducted in the Granite Reef Wash Watershed.

Proposed Next Steps:
If the City Council approves the award of this contract, the analysis and evaluation necessary for final design will commence immediately.

RESPONSIBLE DEPARTMENT(S)

Public Works Division, Capital Project Management

STAFF CONTACTS (S)

Elaine Mercado, Project Manager, emercado@scottsdaleaz.gov

APPROVED BY

6/18/13

Derek Earle, Acting Executive Director, Public Works — Date

(480) 312-2776, dearle@scottsdaleaz.gov

ATTACHMENTS

1. Resolution 9456
2. Location Map
3. Contract 2013-085-COS

RESOLUTION NO. 9456

A RESOLUTION OF THE COUNCIL OF THE CITY OF SCOTTSDALE, MARICOPA COUNTY, ARIZONA, AUTHORIZING THE MAYOR TO EXECUTE ENGINEERING SERVICES CONTRACT NO. 2013-085-COS BETWEEN THE CITY AND TY LIN INTERNATIONAL FOR ENGINEERING SERVICES TO BE CONDUCTED IN THE GRANITE REEF WATERSHED.

The City wishes to identify a feasible solution to mitigate flooding hazards within an area of the City of Scottsdale known as Granite Reef Wash Watershed; and

TY Lin International has offered to provide to the City the requisite engineering services necessary to complete the study and design work.

BE IT RESOLVED by the Council of the City of Scottsdale as follows:

Section 1. The Mayor of the City of Scottsdale is authorized and directed to execute engineering services Contract No. 2013-085-COS between the City and TY Lin, Inc. for engineering services to be conducted in the Granite Reef Wash Watershed.

PASSED AND ADOPTED by the Council of the City of Scottsdale this 1st day of July, 2013.

ATTEST:

CITY OF SCOTTSDALE
An Arizona municipal corporation

By: _____
Carolyn Jagger, City Clerk

By: _____
W.J. "Jim" Lane, Mayor

APPROVED AS TO FORM:

Bruce Washburn, City Attorney
By: Clifford J. Frey
Senior Assistant City Attorney

ATTACHMENT 1

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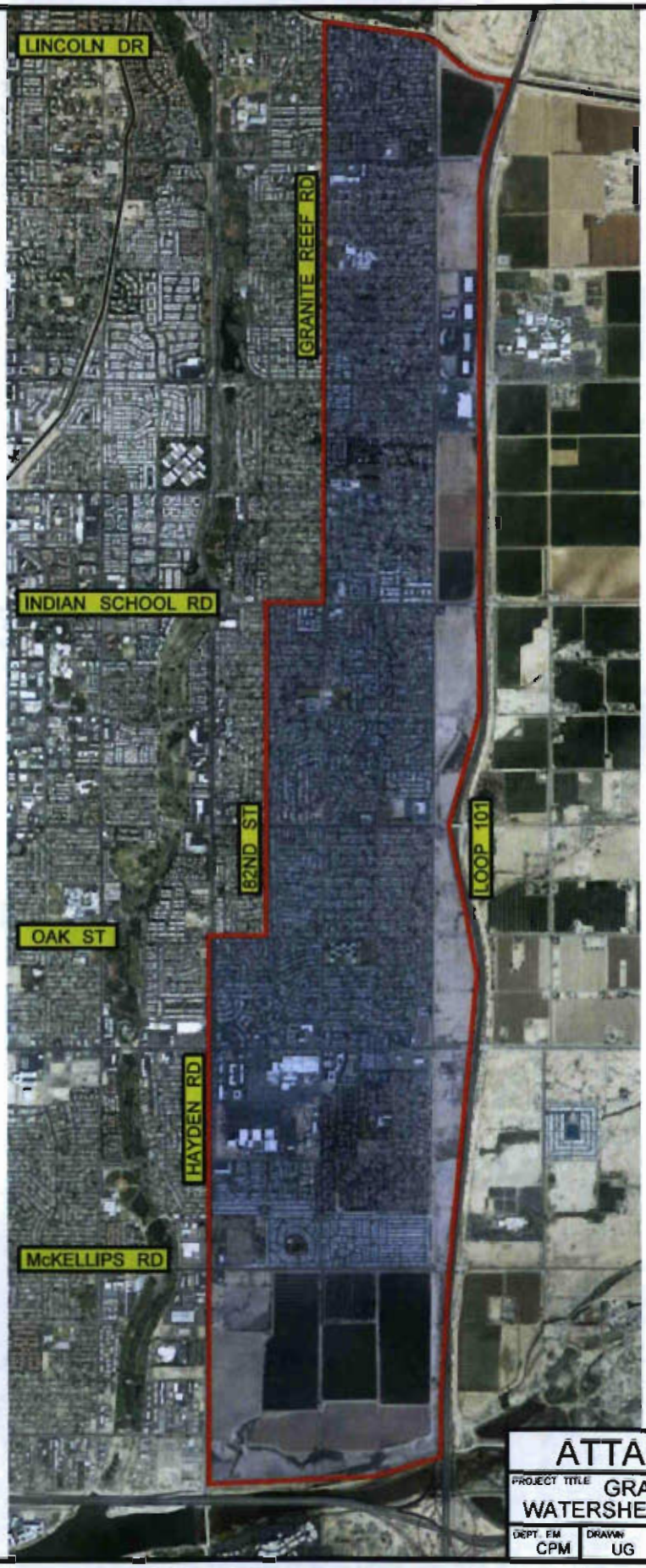

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ATTACHMENT 2

PROJECT TITLE
GRANITE REEF
WATERSHED IMPROVEMENTS

DEPT. FM	DRAWN	DATE	SCALE	SHT.
CPM	UG	06/13	NTS	1 OF 1

CITY OF SCOTTSDALE. ARIZONA

PLOT DATE: 6/10/2013 8:38:04 AM

DESIGN FILE: ...\130606_GRANITE REEF WATERSHED IMPR.dgn

CITY OF SCOTTSDALE

ENGINEERING SERVICES CONTRACT

PROJECT NO.
CONTRACT NO. 2013-085-COS

THIS CONTRACT, entered into this 1st day of July, 2013, between the City of Scottsdale, an Arizona municipal corporation, the "CITY" and T.Y. Lin International, a California Corporation, the "ENGINEER."

RECITALS

A. The Mayor of the City of Scottsdale is authorized by provisions of the City Charter to execute contracts for professional services; and

B. The City intends to contract for Engineering services with T. Y. Lin International (TYLIN) to provide hydrologic and hydraulic analysis and watershed outfall evaluation; and

C. The Engineer is qualified to render the services desired by the City.

FOR AND IN CONSIDERATION of the parties' mutual covenants and conditions, it is agreed between the City and the ENGINEER as follows:

1.0 Description, Acceptance, Documentation

1.1 Scope of Services

The Engineer will act under the authority and approval of the Contract Administrator to provide the Engineering services required by this Contract.

The Engineer is assigned the tasks specified in the attached Exhibit A, Project Scope of Work, which is incorporated by reference and made a part of this Contract.

The Engineer must obtain all necessary information to complete the tasks specified in Exhibit A, Project Scope of Work.

1.2 Acceptance and Documentation

A. Each task will be reviewed and approved by the Contract Administrator to determine acceptable completion.

ATTACHMENT 3

B. The City will provide all necessary information to the Engineer for timely completion of the tasks specified in Section 1.1 above.

C. All documents, including but not limited to, data compilations, studies, and reports which are prepared in the performance of this Contract are to be and remain the property of the City and are to be delivered to the Contract Administrator before final payment is made to the Engineer.

2.0 Fees and Payments

2.1 Fee Schedule

The amount paid to the Engineer will not exceed $300,617.

The Engineer will be paid at the hourly rates shown in Exhibit A:

2.2 Payment Approval

The time spent for each task must be recorded and submitted to the Contract Administrator. The Engineer must maintain all necessary documents and accounting records pertaining to time billed and to costs incurred and make these materials available at all reasonable times during the contract period.

Monthly payments will be made to the Engineer on the basis of a progress report submitted by the Engineer for work completed through the last day of the preceding calendar month. Each task is subject to review and approval by the Contract Administrator to determine acceptable completion.

The Contract Administrator will prepare a partial payment request document for the Engineer's acceptance. However, not more than 90% of the total contract price will be paid before City's final acceptance of all completed work.

The Contract Administrator reserves the exclusive right to determine the amount of work performed and payment due the Engineer on a monthly basis.

All charges must be approved by the Contract Administrator before payment.

2.2.1 Payment Terms

The City of Scottsdale's payment terms for engineering work under State of Arizona A.R.S. Title 34 requirements is 14 days after invoice submittal by the engineer and the work is certified and approved by the City Contract Administrator.

The City has 7 days after receipt of the invoice to prepare and issue a written finding setting forth those items in detail which are not approved for payment under the contract and which are not certified by the City Contract Administrator. Until such time as such issues are resolved and certified by the City the 14 day payment term will not have commenced.

2.3 Price Adjustment

Price increases may only be requested by the Engineer, 30 days before the annual anniversary date of the Contract. Failure to do so may result in the denial of any increase requested.

Price increases will become effective only after approval by the Contract Administrator and the Purchasing Director and will be effective for at least 1 year from the date of approval.

Approved price increases will be applied to the unit pricing in the Contract as a percentage increase.

The increased rate will be based upon mutual consent of the Engineer and the Contract Administrator, however, the Contract Administrator will evaluate the Contractor's performance, services and records documentation to determine the appropriateness of the increase requested.

The percentage increase in the unit pricing may not exceed 5%.

3.0 General Terms and Conditions

3.1 Contract Administrator

The Contract Administrator for the City will be Elaine Mercado, or designee. The Contract Administrator will oversee the performance of this Contract, assist the Engineer in accessing the organization, audit billings, and approve payments. The Engineer must submit all reports and special requests through the Contract Administrator. The Contract Administrator has the authority to authorize Change Orders up to the limits permitted by the City's Procurement Code.

3.2 Term of Contract

The Term of the Contract is for 12 months.

This Contract must be approved by the City Council of the City of Scottsdale, Arizona and signed by its Mayor and attested by the City Clerk. This Contract is in full force and effect when it is signed by the City and the Engineer.

If any tasks remain incomplete after the completion time period, the Contract Administrator must give written approval to continue the Contract.

3.3 Termination or Cancellation of Contract

The City may terminate this Contract or abandon any portion of the project that has not been performed by the Engineer.

Termination for Convenience: The City has the right to terminate this Contract or any part of it for its sole convenience with 30 days written notice. If terminated, the Engineer must immediately stop all work and will immediately cause any of its suppliers and Subcontractors to stop all work. As payment in full for services performed to the date of the termination, the Engineer will receive a fee for the percentage of services actually completed. This fee will be in the amount mutually agreed upon by the Engineer and the City, based on the Scope

of Work. If there is no mutual agreement, the Contract Administrator will determine the percentage of completion of each task detailed in the Scope of Work and the Engineer's compensation will be based on this determination. The City will make this final payment within 60 days after the Engineer has delivered the last of the partially completed items. The Engineer will not be paid for any work done after receipt of the notice of termination or for any costs incurred by the Engineer's suppliers or Subcontractors, which the Engineer could reasonably have avoided.

Cancellation for Cause: The City may also cancel this Contract or any part of it with 7 days notice if the Engineer defaults, or if the Engineer fails to comply with any of the terms and conditions of this Contract. Unsatisfactory performance as determined by the Contract Administrator and failure to provide the City, upon request, with adequate assurances of future performance are all causes allowing the City to terminate this Contract for cause. Upon cancellation for cause, the City will not be liable to the Engineer for any amount, and the Engineer will be liable to the City for all damages sustained by the default which caused the cancellation.

If the Engineer is in violation of any Federal, State, County or City law, regulation or ordinance, the City may terminate this Contract immediately after giving notice to the Engineer.

If the City cancels this Contract or any part of the Contract services, the City will notify the Engineer in writing, and upon receiving notice, the Engineer must discontinue advancing the work and proceed to close all operations.

Upon cancellation, the Engineer must deliver to the City all drawings, special provisions, field survey notes, reports, and estimates, entirely or partially completed, in any format, including but not limited to written or electronic media, together with all unused materials supplied by the City. Use of incomplete data will be the City's sole responsibility.

The Engineer must appraise the work it has completed and submit its appraisal to the City for evaluation.

If the Engineer fails to fulfill in a timely and proper manner its obligations, or if the Engineer violates any of the terms of this Contract, the City may withhold any payments to the Engineer for the purpose of setoff until the exact amount of damages due the City from the Engineer is determined by a court of competent jurisdiction.

If the City improperly cancels the Contract for cause; the cancellation for cause will be converted to a termination for convenience in accordance with the provisions of this Section 3.3.

3.4 Funds Appropriation

If the City Council does not appropriate funds to continue this Contract, the City may terminate this Contract at the end of the current fiscal period. The City agrees to give written notice of termination to the Engineer at least 30 days before the end of its current fiscal period and will pay to the Engineer all approved charges incurred through the end of that period.

3.5 Audit

The City may audit all of the Engineer's records, calculations, and working documents pertaining to this work at a mutually agreeable time and place.

The Engineer's records (hard copy, as well as computer readable data), and any other supporting evidence necessary to substantiate any claims related to this Contract must be open to inspection and subject to audit and reproduction by the City's authorized representative as necessary to permit evaluation and verification of the cost of the work, and any invoices, change orders, payments or claims submitted by the Engineer or any of his payees. The City's authorized representative must be afforded access, at reasonable times and places, to all of the Engineer's records and personnel throughout the term of this Contract and for a period of 3 years after the final payment.

The Engineer must require all Subcontractors and material suppliers (payees) to comply with the provisions of this section by insertion of these requirements in a written contract between the Engineer and payee. These requirements will apply to all Subcontractors.

If an audit discloses overcharges by the Engineer to the City in excess of 1% of the total contract billings, the actual cost of the City's audit must be reimbursed to the City by the Engineer. Any adjustments and payments made as a result of the audit or inspection of the Engineer's invoices and records will be made within a period of time not to exceed 90 days from presentation of the City's findings to the Engineer.

This audit provision includes the right to inspect personnel records as required by Section 3.22.

3.6 Ownership of Project Documents

All documents, including but not limited to, field notes, design notes, tracings, data compilations, studies, and reports in any format, including but not limited to, written or electronic media, prepared in the performance of this Contract will remain the property of the City and must be delivered to the Contract Administrator before final payment is made to the Engineer.

When the work detail covers only the preparation of preliminary reports or plans, there will be no limitations upon the City concerning use of the plans or ideas in the reports or plans for the preparation of final construction plans. The City will release the Engineer from any liability for the preparation of final construction plans by others.

3.7 Completeness and Accuracy

The Engineer will be responsible for the completeness and accuracy of its work, including but not limited to, survey work, reports, supporting data, and drawings, sketches, etc. prepared by the Engineer and will correct, at its expense, all errors or omissions which may be disclosed. The cost to correct those errors will be chargeable to the Engineer. Additional construction added to the project will not be the responsibility of the Engineer unless the need for additional construction was created by any error, omission, or negligent act of the Engineer. The City's acceptance of the Engineer's work will not relieve the Engineer of any of its responsibilities.

3.8 Attorney's Fees

Should either party bring any action for relief, declaratory or otherwise, arising out of this Contract, the prevailing party will be entitled to receive from the other party reasonable attorneys' fees, reasonable costs and expenses as determined by the court sitting without a jury. All these fees, costs, and expenses will be considered to have accrued on the commencement of the action and will be enforceable whether or not the action is prosecuted to judgment.

3.9 Successors and Assigns

This Contract will be binding upon the Engineer, its successors and assigns, including any individual, or other entity with or into which the Engineer may merge, consolidate, or be liquidated, or any individual or other entity to which the Engineer may sell or assign its assets.

3.10 Assignment

Services covered by this Contract must not be assigned or sublet in whole or in part without first obtaining the written consent of the Contract Administrator.

3.11 Subcontractors

The Engineer may engage any additional Subcontractors as required for the timely completion of this Contract. If the Engineer subcontracts any of the work required by the Contract, the Engineer remains solely responsible for fulfillment of all the terms of this Contract.

The Engineer will pay its Subcontractors within 7 calendar days of receipt of each progress payment from the City. The Engineer will pay for the amount of the Work performed by each Subcontractor as accepted and approved by the City with each progress payment. In addition, any reduction of retention, if any, by the City will result in a corresponding reduction to Subcontractors who have performed satisfactory work. The Engineer will pay Subcontractors the reduced retention within 14 calendar days of the payment of the reduction of the retention to the Engineer. No Contract between the Engineer and its Subcontractors may materially alter the rights of any Subcontractor to receive prompt payment and retention reduction as provided in this Contract.

If the Engineer fails to make payments in accordance with these provisions, the City may take any of one or more of the following actions and the Engineer agrees that the City may take these actions:

A. To hold the Engineer in default under this Contract;

B. Withhold future payments including retention until proper payment has been made to Subcontractors in accordance with these provisions;

C. Reject all future offers to perform work for the City from the Engineer for a period not to exceed 1 year from the completion date of this project; or

D. Terminate this Contract.

3.12 Alterations or Additions to Scope of Services

The total Scope of the Engineering Services to be performed is stated in this Contract. Any services requested outside the scope of work are additional services. The Engineer will not perform these additional services without a written Change Order approved by the City. If the Engineer performs additional services without a Change Order, the Engineer will not receive any additional compensation.

3.13 Modifications

Any amendment or modification of the terms of this Contract must be in writing and will be effective only after approval of all parties to this Contract.

3.14 Conflict of Interest

The Engineer warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Engineer, to solicit or secure this Contract, and that it has not paid or agreed to pay any person or persons, other than a bona fide employee working solely for the Engineer any fee, commission, percentage, brokerage fee, gifts or any consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, City will have the right to annul this Contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover the full amount of any fee, commission, percentage, brokerage fee, gift or contingent fee, together with costs and attorney's fees.

The City may cancel any Contract or Agreement, without penalty or obligation, if any person significantly involved in initiating, negotiating, securing, drafting, or creating the Contract on behalf of the City's departments or agencies is, at any time while the Contract or any extension of the Contract is in effect, an employee of any other party to the Contract in any capacity or a consultant to any other party to the Contract with respect to the subject matter of the Contract. The cancellation will be effective when written notice from the City is received by all other parties to the Contract, unless the notice specifies a later time (A.R.S. 38-511).

The Engineer will fully reveal in writing any financial or compensatory agreement which it has with a prospective bidder before the City's publication of documents for bidding.

3.15 Force Majeure

Neither party will be responsible for delays or failures in performance resulting from acts beyond their control. These acts will include, but not be limited to, acts of God, riots, acts of war, epidemics, governmental regulations imposed after the fact, fire, communication line failures, or power failures.

3.16 Taxes

The fee listed in this Contract includes all taxes applicable to the services authorized. The City will have no obligation to pay additional amounts for taxes of any type.

3.17 Advertising

No advertising or publicity concerning the City's use of the Engineer's services will be undertaken without first obtaining written approval of the Contract Administrator.

3.18 Counterparts

This Contract may be executed in one or more counterparts, and each executed duplicate counterpart will possess the full force and effect of the original.

3.19 Entire Agreement

This Contract contains the entire understanding of the parties and no representations or agreements, oral or written, made before its execution will vary or modify the terms of this Contract.

3.20 Arizona Law

This Contract must be governed and interpreted according to the laws of the State of Arizona.

3.21 Equal Employment Opportunity

The Engineer will comply with Executive Order No. 11245, entitled "Equal Employment Opportunity", as amended by Executive Order No. 11375, and as supplemented in Department of Labor Regulations (41 CFR Part 60). The Engineer will include the terms of this provision in all contracts and subcontracts for work performed under this Contract, including supervision and oversight.

No Preferential Treatment or Discrimination:
In accordance with the provisions of Article II, Section 36 of the Arizona Constitution, the City will not grant preferential treatment to or discriminate against any individual or group on the basis of race, sex, color, ethnicity or national origin.

3.22 Compliance with Federal and State Laws

The Engineer accepts the applicability to it of the Americans with Disabilities Act, the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989. In addition, the Engineer accepts the applicability to it of A.R.S. §34-301 and 34-302. The Engineer will include the terms of this provision in all contracts and subcontracts for work performed under this Contract, including supervision and oversight.

Under the provisions of A.R.S. §41-4401, the Engineer warrants to the City that the Engineer and all its subcontractors will comply with all Federal Immigration laws and regulations that relate to their employees and that the Engineer and all its subcontractors now comply with the E-Verify Program under A.R.S. §23-214(A).

A breach of this warranty by the Engineer or any of its subcontractors will be considered a material breach of this Contract and may subject the Engineer or Subcontractor to penalties up to and including termination of this Contract or any subcontract.

The City retains the legal right to inspect the papers of any employee of the Engineer or any subcontractor who works on this Contract to ensure that the Engineer or any subcontractor is complying with the warranty given above.

The City may conduct random verification of the employment records of the Engineer and any of its subcontractors to ensure compliance with this warranty. The Engineer agrees to indemnify, defend and hold the City harmless for, from and against all losses and liabilities arising from any and all violations of these statutes.

The City will not consider the Engineer or any of its subcontractors in material breach of this Contract if the Engineer and its subcontractors establish that they have complied with the employment verification provisions prescribed by 8 USCA §1324(a) and (b) of the Federal Immigration and Nationality Act and the E-Verify requirements prescribed by A.R.S. §23-214(A). The "E-Verify Program" means the employment verification pilot program as jointly administered by the United States Department of Homeland Security and the Social Security Administration or any of its successor programs.

The provisions of this Article must be included in any contract the Engineer enters into with any and all of its subcontractors who provide services under this Contract or any subcontract. "Services" are defined as furnishing labor, time or effort in the State of Arizona by a contractor or subcontractor. Services include construction or maintenance of any structure, building or transportation facility or improvement to real property. The Engineer will take appropriate steps to assure that all subcontractors comply with the requirements of the E-Verify Program. The Engineer's failure to assure compliance by all its' subcontractors with the E-Verify Program may be considered a material breach of this Contract by the City.

3.23 Compliance with Americans with Disabilities Act

Engineer acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services and other activities provided by a public entity to the public, whether directly or through a contractor, must be accessible to the disabled public. Engineer will provide the services specified in this Contract in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. Engineer agrees not to discriminate against disabled persons in the provision of services, benefits or activities provided under this Agreement and further agrees that any violation of this prohibition on the part of Engineer, its employees, agents or assigns will constitute a material breach of this Contract.

3.24 Contracts with Sudan and Iran

In accordance with A.R.S. §35-391-06 and §35-393-06, and the Contractor certifies that it does not have scrutinized business operations in Sudan or Iran, as defined in A.R.S. §35-391(15) and §35-393(12).

3.25 Evaluation of Engineer's Performance

The Engineer will be evaluated regarding its performance of this Contract. This evaluation will include, but not be limited to, the following consideration for:

- Completeness
- Accuracy
- Utility Coordination
- Technical Expertise
- Organization
- Appearance of plans (linework, lettering, etc.)
- Working relationship with City staff and others
- Availability
- Communication skills (meetings, correspondence, etc.)

This evaluation will be prepared by the staff and used to evaluate the desirability to proceed with negotiations for additional services.

3.26 Notices

All notices or demands required by this Contract must be given to the other party in writing, delivered by hand or by registered or certified mail at the addresses stated below, or to any other address the parties may substitute by giving written notice as required by this section.

On behalf of the Engineer:

Jason K. Kelley, PE, CFM, LEED AP
Stormwater Group Manager
T.Y. Lin International
60 East Rio Salado Parkway, Suite 501
Tempe, AZ 85281

On behalf of the City:

Elaine Mercado, PE
Project Manager
Capital Project Management
City of Scottsdale
7447 East Indian School Road, Suite 205
Scottsdale, AZ 85251

If hand delivered, Notices are received on the date delivered. If delivered by certified or registered mail, Notices are received on the date indicated on the receipt. Notice by facsimile or electronic mail is not adequate notice.

3.27 Independent Contractor

The services the Engineer provides to the City are that of an Independent Contractor, not an employee, or agent of the City. The City will report the value paid for these services each year to the Internal Revenue Service (I.R.S.) using Form 1099.

City will not withhold income tax as a deduction from contractual payments. As a result of this, Contractor may be subject to I.R.S. provisions for payment of estimated income tax. Contractor is responsible for consulting the local I.R.S. office for current information on estimated tax requirements.

3.28 Ineligible Bidder

The preparer of bid specifications is not eligible to submit a bid or proposal on the solicitation for which they prepared the specification, nor is the preparer eligible to supply any product to a bidder or offeror on the solicitation for which they prepared the specification.

3.29 Indemnification

To the fullest extent permitted by law, the Engineer must defend, indemnify and hold harmless the City, its agents, representatives, officers, directors, officials and employees against all allegations, demands, suits, actions, claims, damages, losses, expenses, attorney fees, court costs, cost of appellate proceedings, and all claim adjusting and handling expense arising out of any negligent or intentional acts, actions, errors, or omissions to the extent caused by the Engineer. The Engineer is defined as the Engineer, its successors, assigns and

guarantors, any subcontractor or anyone directly or indirectly employed by the Engineer or subcontractor or anyone for whose acts the Engineer or subcontractor may be liable and any injury or damages claimed by any of the Engineer's and subcontractor's employees.

Insurance provisions in this Contract are separate and independent from the indemnity provisions of this section and will not be construed in any way to limit the scope and magnitude of the indemnity provisions. The indemnity provisions of this section must not be construed in any way to limit the scope and magnitude and applicability of the insurance provisions.

4.0 Insurance

A current Acord Certificate is acceptable.

Failure to provide an appropriate Certificate of Insurance will result in rejection of your certificate and delay in Contract execution.

Additionally Certificates of Insurance submitted without referencing a Contract number will be subject to rejection and returned or discarded.

4.1 Insurance Representations and Requirements

A. General: The Engineer agrees to comply with all applicable City ordinances and state and federal laws and regulations.

Without limiting any obligations or liabilities of the Engineer, the Engineer must purchase and maintain, at its own expense, the required minimum insurance with insurance companies duly licensed or approved to conduct business in the State of Arizona and with an A.M. Best's rating of B++6 or above with policies and forms satisfactory to City. Failure to maintain insurance as required may result in cancellation of this Contract at the City's option.

B. No Representation of Coverage Adequacy: By requiring insurance, City does not represent that coverage and limits will be adequate to protect the Engineer. The City reserves the right to review any and all of the insurance policies and endorsements cited in this Contract but has no

obligation to do so. Failure to demand evidence of full compliance with the insurance requirements in this Contract or failure to identify any insurance deficiency will not relieve the Engineer from, nor will it be considered a waiver of its obligation to maintain the required insurance at all times during the performance of this Contract.

C. Coverage Term: The Engineer must maintain all required insurance in full force and effect until all work or services are satisfactorily performed and accepted by the City of Scottsdale, unless specified otherwise in this Contract.

D. Claims Made: If any required insurance policies are written on a "claims made" basis, coverage must extend for 3 years past completion and acceptance of the work or service. The Engineer must annually submit Certificates of Insurance citing that the applicable coverage is in force and contains the required provisions for the 3 year period.

E. Policy Deductibles and or Self Insured Retentions: The required policies may provide coverage which contain deductibles or self-insured retention amounts. The Engineer is solely responsible for any deductible or self-insured retention amount and the City, at its option, may require the Engineer to secure payment of the deductible or self-insured retention by a surety bond or irrevocable and unconditional Letter of Credit.

F. Use of Subcontractors: If any work is subcontracted in any way, the Engineer must execute a written agreement with Subcontractor containing the same Indemnification Clause and Insurance Requirements as the City requires of the Engineer in this Contract. The Engineer is responsible for executing the Contract with the Subcontractor and obtaining Certificates of Insurance and verifying the insurance requirements.

G. Evidence of Insurance: Before commencing any work or services under this Contract, the Engineer must furnish the Contract Administrator with Certificate(s) of Insurance, or formal endorsements issued by the Engineer's insurer(s) as evidence that policies are placed with acceptable insurers and provide the required coverages, conditions, and limits of coverage and that the coverage and provisions are in full force and effect. If a Certificate of Insurance is submitted as verification of coverage, the City will reasonably rely upon the Certificate of Insurance as evidence of coverage but this acceptance and reliance will not waive or alter in any way the insurance requirements or obligations of this Contract. If any of the required policies expire during the life of this Contract, the Engineers must forward renewal Certificates to the City within 10 days after the renewal date containing all the necessary insurance provisions.

Certificates shall specifically cite the following provisions:

1. The City of Scottsdale, its agents, representatives, officers, directors, officials and employees are named as an Additional Insured under the following policies:

a) Commercial General Liability
b) Auto Liability
c) Excess Liability - Follow Form to underlying insurance as required.

2. The Engineer's insurance must be primary insurance for all performance of work under this Contract.

3. All policies, except Professional Liability insurance if applicable, waive rights of recovery (subrogation) against the City, its agents, representatives, officers, directors, officials and employees for any claims arising out of work or services performed by the Engineer under this Contract.

4. If the Engineer receives notice that any of the required policies of insurance are materially reduced or cancelled, it will be Engineer's responsibility to provide prompt notice of same to the City, unless such coverage is immediately replaced with similar policies.

4.2 Required Coverage

A. Commercial General Liability: The Engineer must maintain "occurrence" form Commercial General Liability insurance with a limit of not less than $1,000,000 for each occurrence, $2,000,000 Products and Completed Operations Annual Aggregate, and a $2,000,000 General Aggregate Limit. The policy must cover liability arising from premises, operations, independent contractors, products-completed operations, and personal injury and advertising injury. If any Excess insurance is utilized to fulfill the requirements of this section, the Excess insurance must be "follow form" equal or broader in coverage scope than the underlying insurance.

B. Professional Liability: The Engineer must maintain Professional Liability insurance covering errors and omissions arising out of the work or services performed by the Engineer, or anyone employed by the Engineer, or anyone for whose acts, mistakes, errors and omissions the Engineer is legally liable, with a liability insurance limit of $1,000,000 each claim and $2,000,000 all claims. If the Professional Liability insurance policy is written on a "claims made" basis, coverage must extend for 3 years past completion and acceptance of the work or services, the Engineer must annually submit Certificates of Insurance citing that the applicable coverage is in force and contains the required provisions for a 3 year period.

C. Vehicle Liability: The Engineer must maintain Business Automobile Liability insurance with a limit of $1,000,000 each accident on the Engineer's owned, hired, and non-owned vehicles assigned to or used in the performance of the Engineer's work or services under this Contract. If any Excess insurance is utilized to fulfill the requirements of this paragraph, the Excess insurance must be "follow form" equal or broader in coverage scope than the underlying insurance.

D. Workers Compensation Insurance: The Engineer must maintain Workers Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of the Engineer's employees engaged in the performance of work or services under this Contract, and must also

maintain Employers' Liability Insurance of not less than $100,000 for each accident, $100,000 disease for each employee and $500,000 disease policy limit.

5.0 Software Licenses

If The Engineer provides to the City any software licenses, the following provisions apply:

5.1 Source Code Availability

A. The Engineer must furnish the City, without charge, a single copy of the Source Code for the Software immediately upon the occurrence of any of the following:

1. The Engineer becomes insolvent; or
2. The Engineer ceases to conduct business; or
3. The Engineer makes a general assignment for the benefit of creditors; or
4. A petition is filed in Bankruptcy by or against the Engineer.

B. Use of the Source Code must be subject to the same restrictions as the Software itself.

C. The City must have the right to modify the Source Code in any manner the City believes is appropriate, provided that the Source Code as modified must remain subject to the restrictions of Section 5.1(B).

5.2 Proprietary Protection

A. The City agrees that if the Engineer informs the City that the Software is confidential information or is a trade secret property of the Engineer; the Software is disclosed on a confidential basis under this Contract and in accordance with the terms of this Contract.

B. The Engineer must not use or disclose any knowledge, data or proprietary information relating to the City obtained in any manner.

C. As permitted by Arizona Law, the parties agree that during the term of this Contract and of all Licenses granted under this Contract, and for a period of 7 years after termination of this Contract and of all licenses granted by this Contract, to hold each others' confidential information in confidence. The parties agree, unless required by government regulations or order of court, not to make each others' confidential information available in any form to any third party or to use each other's confidential information for any purposes other than the implementation of this Contract. However, if the Engineer's confidential information is requested to be divulged under the provisions of the Arizona Public Records Act, A.R.S., Title 39, the Engineer must reimburse the City for the full cost of the City's refusal to release the information, including the costs of litigation, the City's attorney fees, fines, penalties or assessments of the opposing party's attorney fees. Each party agrees to take all reasonable steps to ensure that confidential information is not disclosed or distributed by its employees or agents in violation of the provisions of this Contract.

5.3 Non-Infringement

The Engineer warrants that the Software provided to the City does not and will not infringe upon or violate any patent, copyright, trade secret or other proprietary or property right of any person or entity.

In the event of a claim against the City asserting or involving such an allegation, the Engineer will defend, at the Engineer's expense, and will indemnify and hold harmless the City against any loss, cost, expense (including attorney fees) or liability arising out of the claim, whether or not the claim is successful. In the event an injunction or order is obtained against use of the Software, or if in the Engineer's opinion the Software is likely to become the subject of a claim of infringement, the Engineer will, at its option and its expense:

1. Procure for the City the right to continue using the Software; or
2. Replace or modify the software so that it becomes non-infringing (this modification or replacement must be functionally equivalent to the original); or
3. If neither 1 nor 2 is practicable, repurchase the Software on a depreciated basis utilizing a straight line 5 year period, commencing on the date of acceptance.

5.4 Third Party License

The Engineer must sublicense to the City any and all third party Software required in this Contract. The City reserves the right to accept or reject third party license terms. If the City rejects the terms of a third party license, it will be the Engineer's responsibility to negotiate acceptable terms or to supply Software from another source with terms acceptable to the City. The City's acceptance of the third party license terms will not be unreasonably withheld.

6.0 Severability and Authority

6.1 Severability

If any term or provision of this Contract is found to be illegal or unenforceable, then notwithstanding such illegality or unenforceability, this Contract will remain in full force and effect and the term or provision will be considered to be deleted.

6.2 Authority

Each party warrants that it has full power and authority to enter into and perform this Contract, and that the person signing on behalf of each party has been properly authorized and empowered to enter into this Contract. Each party acknowledges that it has read, understands, and agrees to be bound by the terms and conditions of this Contract.

7.0 Request For Taxpayer I.D. Number & Certification I.R.S. W-9 Form

Upon request, the Contractor shall provide the required I.R.S. W-9 FORM which is available from the IRS website at www.IRS.gov under their forms section.

The City of Scottsdale by its Mayor and City Clerk have subscribed their names this 1st day of July, 2013.

CITY OF SCOTTSDALE
an Arizona Municipal Corporation

ATTEST:

W.J. "Jim" Lane
Mayor

Carolyn Jagger
City Clerk

ENGINEER:

By: _____

Its: _____

RECOMMENDED:

Derek E. Earle
City Engineer

Edward M. Howard
Risk Management Director

Contract Administrator

APPROVED AS TO FORM:

Bruce Washburn, City Attorney
By: Clifford J. Frey
Senior Assistant City Attorney

TYLIN SCOPE OF SERVICES
for
CITY OF SCOTTSDALE
GRANITE REEF WASH HYDROLOGY UPDATE
PROJECT NO. F0201

Location
The project area is located in south Scottsdale adjacent to the Salt River Pima-Maricopa Indian Community (SRPMIC). The study area extends from the Arizona Canal to the north, the Salt River to the south, approximately Granite Reef Road to the west and the Pima Freeway to the east.

Contract Time
Estimated completion of the hydrology update is 24 weeks. This includes four weeks of review time.

1. Project Management
TYLIN's project manager will provide ongoing coordination with the CITY, subconsultants, coordination on all study tasks, deliverables and reviews throughout the contract time-frame and will be the point of contact with the CITY's Project Manager.

2. Meetings
The following meetings are anticipated for the hydrology update:
1. *Kick-off Meeting* – To clarify study goals and purpose, deliverables and schedule.
2. *Monthly Progress Meeting* – To discuss study progress.
3. *Hydrology/Hydraulics Meetings* – To discuss hydrology results after Milestone 1 and hydraulic results after Milestone 2.
4. *Flood Mitigation/Outfall Meetings* – To discuss mitigation and outfall conditions.
5. *Stakeholder Meetings* – To discuss project issues and obtain feedback/guidance from stakeholder groups.
6. *Site Visits* – To perform site reconnaissance as needed to verify structures and flow splits.

3. Data Collection / Review
TYLIN will collect, review, analyze data pertinent to the FLO-2D and SWMM models.

4. FLO-2D and SWMM Modeling
The purpose of performing hydrologic and hydraulic FLO-2D/SWMM modeling for this project is to provide more detailed and accurate spatial and temporal variation in flow characteristics, depths, and velocities within the study area. TYLIN will develop an existing conditions FLO-2D/EPA SWMM model (FLO-2D version 2009.06) for the Granite Reef Wash Watershed (bounded by the Arizona Canal on the north, the Salt River on the south, the SR101 Freeway on the east and the Indian Bend/Granite Reef Wash watershed boundary on the west). The models will be run for both the 100-year and 10-year, 6-hour events. Milestone submittals have been modified (consolidated) from the standard District 2D submittal process in order to accelerate the process.

Milestone 1

FLO-2D

TYLIN will develop the FLO-2D model utilizing a 15'x15' grid size consisting of approximately 800,000 grid elements. The FLO-2D study area and will cover approximately six square miles. TYLIN will insure the 2D model completely covers the entire watershed and any physical features immediately downstream that may affect water surface elevations within the study area. A buffer zone of 100 ft shall be used to account for backwater and numeric stability from effects of boundary conditions.

TYLIN will create a TIN of the study area surface using the most current mapping product for the area and for Section 12 (Township 1N, Range 4E) of the Salt River Pima-Maricopa Indian Community (SRPMIC). The TIN will be used to create a DEM of the study area in ESRI ASCII Grid format using a grid size 25% of the proposed 2D model grid size.

NOAA 14 ASCII grid files will be used to produce spatially varied rainfall for the 100-year, 6-hour and 10-year, 6-hour storm events. The 6-hour Pattern 1 distribution from the Drainage Design Manual for Maricopa County Volume 1 Hydrology shall be used.

The IA parameter for every grid element shall be adjusted by subtracting the value of TOL.

TYLIN will utilize grid elevations for any regional retention/detention basins within the watershed. Outflow from any basins will be assumed to be attenuated.

TYLIN will prepare a GIS polygon shape files of impervious areas (RTIMP), areas of similar surface roughness (manning's n-value), masonry walls and buildings. The Land Surface Characterization shapefile will be used to apply ARF values to the grid elements. It is anticipated that the Land Characterization shapefile will require no adjustments to the structure polygons (ARFs). WRFs may be used to represent residential walls with openings or wooden fences and gates.

Infiltration will be based on the Green & Ampt method utilizing both Soils shapefile data and land surface characterization shapefile data. No vegetation canopy correction will be applied.

The global limiting infiltration depth function will applied. Limiting depth will be determined by obtaining the total infiltration from the base conditions Granite Reef Wash study HEC-1 model and dividing by the total area. The global limiting infiltration parameter will help to govern initial and transmission infiltration losses.

Modeling of linear hydraulic features shall generally be accomplished using the regular grid. TYLIN will identify culverts (hydraulic structures) 36 inches and larger within the study area. Rating curves will be developed for each identified culvert. Rating curves will be adjusted for debris blockage in accordance with the design requirements of the DS&PM. Culverts will be coded into the model and debugged. Inlets and storm drains 36-inches or larger will be modeled using EPA SWMM (see EPA SWMM section). Flow from the 87th Street storm drain will be re-introduced onto the FLO-2D grid at the open channel behind the Belle Rive Apartments and carried under McDowell Road to the culvert entrance at 84th Place. Flow will be re-introduced at the open channel at the end of Granite Reef Road south of Roosevelt.

Wall (levee) data from the mapping product will be used to characterize walls in the study area. Initial cleanup will be performed to remove non-essential walls. Wall data will be converted into the LEVEE.DAT file. Further clean up will be performed to ensure there are no unintended blockages and no critical missing walls. Final refinements will be made based on initial results to ensure proper flow patterning. An inventory of all hydraulic structures used in the model with IDs corresponding to the Hydraulic Structure / Levees Exhibit, inverts, lengths and source of invert/length data will be included.

FLO-2D floodplain cross-section assignments will be applied to critical locations based on assessment of preliminary results.

Exhibits will be prepared based on the FLO-2D input parameters. All exhibits will be submitted for review electronically in pdf format. It is anticipated that five (5) exhibits will be developed to present the input data:

Table 1: Milestone 1 - Input Data Exhibits

Exhibit #	Exhibit Name	Contains:
1	Watershed Map	Overall showing transfer locations and watershed extents
2	Elevations Map	Contours and FPLAIN.DAT elevations
3	Land Surface Characterization Map	n-values, IA, RTIMP, InitSat, ARFs
4	Soils Map	XKSAT, PSIF, Rock Outcrop
5	Hydraulic Structures / Levees	Inlet / Outlet locations; walls
Total Exhibits: 5		

Exhibits will be prepared based on the FLO-2D results. All exhibits will be submitted for review electronically in pdf format. It is anticipated that eight (8) exhibits will be developed to present the results:

Table 2: Milestone 1 - Results Exhibits

Exhibit #	Exhibit Name	Contains:
5 (3)	100-yr, 6-hr Storm	Depth, velocity, discharge
6 (3)	10-yr, 6-hr Storm	Depth, velocity, discharge
7	Floodplain Cross-sections	Locations and table for discharges
8	FLO-2D / FEMA Comparison	FLO-2D results overlaid with current FEMA delineations
Total Exhibits: 8		

Milestone 2

EPA SWMM

SWMM input files will be created using a GIS integration software (inp.PINS) to load the SWMM model with as-built stormdrain data. Pipe friction and bend losses will be accounted for using functions. Only hydrologically significant stormdrains 36" or larger will be modeled:

- Pima Road from Indian School to Thomas Road to 87th Street to Coronado Drive
- Pima Road from 1/5 mile north of McDowell Road to McDowell Road to Granite Reef Wash
- McDowell Road from Hayden Road to Granite Reef Wash
- 84th Place from just north of Belleview Street to Granite Reef Road to Fillmore Street alignment
- East-west storm drains outfalling to Indian Bend Wash

As much as software function will permit, input parameters and assumptions will be based on the DS&PM. The inlet equations in the FLO-2D/SWMM interface will generate the interception values for grate, curb opening and combination inlets both on-grade and in sump. 6" curb-full inlet capacity calculations will be performed and compared to initial interception results in the FLO-2D/SWMM model. If necessary, a global modification of grid elements containing inlets will be performed by adjusting the elevation of each grid to match the gutter elevation at the inlet. Further modification of an estimated 25% of grids containing inlets will be performed in order to more closely characterize the interception capacity of inlets based on comparison to 6" curb-full capacity calculations.

Table 3: Milestone 2 – Input/Results Exhibits

Exhibit #	Exhibit Name	Contains:
7	*Floodplain Cross-sections*	*Updated table of discharges*
8	FLO-2D / FEMA Comparison	Updated results overlaid with current FEMA delineations
9	Existing Inlets/Stormdrain	Modeled inlet locations/types and pipe locations/sizes
10 (3)	100-yr, 6-hr Storm	Depth, velocity, discharge with SWMM elements
11 (3)	10-yr, 6-hr Storm	Depth, velocity, discharge with SWMM elements
Total Exhibits: 9		

Data Management

TYLIN will manage the input and output files for both FLO-2D and EPA SWMM modeling efforts for the two different storm frequencies. TYLIN will produce post-processed FLO-2D and EPA SWMM results for the modeling effort. This will include output hydrographs for each hydraulic structure for each run. Data files will be appropriately categorized by run date, FLO.exe/EPA SWMM version and storm frequency. Management of data will be an ongoing task throughout the duration of the modeling effort. Results for milestone submittals will be delivered on DVD or via the project ftp site.

5. Optional Item: HEC-1 Model

TYLIN will prepare a HEC-1 model based on FLO-2D results. Subbasins, routes and flowsplits will be coded based on depth, velocity and discharge values from the FLO-2D model. County Methodology will be followed, using Green & Ampt for losses and the Clark Unit Hydrograph. The new HEC-1 model will be adapted from previous County and City models. The NOAA Atlas 14 will be used to model the 100-year, 6-hour and 10-year, 6-hour rainfall.

6. Optional Item: Floodplain Mitigation and Outfall Evaluations
TYLIN will evaluate floodplain mitigation and outfall conditions per City direction based on FLO-2D and/or HEC-1 results.

7. Optional Item: Future Conditions Evaluation (SRPMIC Lands)
TYLIN will create a future conditions FLO-2D model. This will be accomplished by creating a new surface representing full-build out / fully-developed conditions on SRPMIC lands between Pima Road and the SR101 and within Section 12 from McClintock Boulevard to SR101. Proposed surface will slope from SR101 to Pima Road to represent commercial drainage conditions draining towards Pima Road. The 100-year, 2-hour volume will be accounted for in the FLO-2D model using IA. Section 12 will be modeled similarly based on SRPMIC input from current master plans if available. Land use parameters will be based on proposed conditions.

TYLIN will create a future conditions HEC-1 model by updating the infiltration parameters for subbasins covering the SRPMIC lands between Pima Road and the SR101 and within Section 12.

8. Hydrology/Hydraulics Report
TYLIN will prepare a drainage report documenting the assumptions, analysis techniques, approach and results. The report will contain pertinent backup data, modeling assumptions, modeling results, modeling errors and references to software versions. It will include the FLO-2D input/results exhibits, interception evaluation, interception calculations/rating curves, EPA SWMM inlet and stormdrain analysis input/results.

CATEGORY	
Project Manager	PM
Civil Engineer(s)	CE
Senior GIS Specialist(s)	SGS

Schedule Length: 24 wks

WORK TASKS		PM	CE	SGS	TOTAL	TOTAL
	Hourly Rate:	$192.06	$126.63	$94.05	HRS	$
1. Project Management						
Client communication; project/sub coordination (schedules, reports, calls, emails) (6 hrs per week; 16 weeks)		96			96	$18,437
					96	
	SUBTOTAL	96	0	0	96	**$18,437**
2. Meetings	No. of meetings					
Kick-Off Meeting	1	5	3		8	$1,340
Monthly Progress Meeting	5	20	20		40	$6,374
Hydrology/Hydraulics Meetings (after Milestone 1 and Milestone 2)	2	10	8		18	$2,934
Optional Item: Flood Mitigation/Outfall Meetings	2	10	8		18	$2,934
Stakeholder Meetings (with Exhibits)	5	24	15	10	49	$7,449
Site Visits <– Assume 2, 1-day site visit as needed to verify structures/flow splits			8	8	16	$1,765
	15				*149*	
	SUBTOTAL	69	62	18	149	**$22,796**
3. Data Collection / Review						
Collect, review, analyze data pertinent to developing the FLO-2D and SWMM models			6	18	24	$2,453
					24	
	SUBTOTAL	0	6	18	24	**$2,453**
4. FLO-2D and SWMM Modeling (6 sq.mi. x 2 frequencies (100-year and 10-year, 6-hour))						
Milestone 1						
Global grid/buffer, rainfall, elevations, Section 12 surface melding; 'n' values; cross sections; WRFs/ARFs; infiltration;		16	100	180	296	$32,665
hydraulic structures; debugging; levees cleanup; input data and results exhibits						
Milestone 2						
Milestone 1 review comments; SWMM stormdrain models; inlet grid adjustments (assume 250 inlets; 7 miles of stormdrain)		20	84	180	284	$31,407
6" curb capacity inlet calculations/comparison; inlet grid adjustments; corrections to specific watershed/infrastructure issues						
Calibration						
Revision to model parameters based on IBW calibration - model re-runs; comparisons to local flood photos		16	24	24	64	$8,369
Data Management						
FLO-2D model runs; SWMM model runs; post-processing for submittals			16	50	66	$6,729
QA/QC		8	16		24	$3,563
					734	
	SUBTOTAL	60	240	434	734	**$82,733**
5. Optional Item: HEC-1 (based on FLO-2D routing)						
Subbasin delineation based on FLO-2D flow patterning; routing / flowsplits based on FLO-2D results		50	230	300	580	$66,944
Model parameters development; QA/QC; Submittals					*580*	
	SUBTOTAL	50	230	300	580	**$66,944**
6. Optional Item: Flood Mitigation/Outfall Evaluations						
Flood mitigation evaluations		32	72	92	196	$23,916
Outfall evaluations		48	88	108	244	$30,520
					440	
	SUBTOTAL	80	160	200	440	**$54,436**
7. Optional Item: Future Conditions Evaluation (SRPMIC lands)						
Surface creation; surface sampling; FLO-2D model modifications/runs; results submittals; QA/QC		16	24	80	120	$13,636
HEC-1 model infiltration parameters updates to SRPMIC subbasins		4	8	16	28	$3,286
					148	
	SUBTOTAL	20	32	96	148	**$16,922**
8. Report						
Hydrology / Hydraulics Report (2 submittals)		16	32	50	98	$11,828
Optional Item: Flood Mitigation		16	32	50	98	$11,828
Optional Item: Outfall Evaluations		16	32	50	98	$11,828
					294	
	SUBTOTAL	48	96	150	294	**$35,483**
					2465	
	DIRECT LABOR HOURS without Optional Items:	231	332	520	1083	$135,314
	TOTAL DIRECT LABOR HOURS	423	826	1216	2465	$300,204
Reimbursables						
H&H Report	3 copies at 100%					$150
Mileage	15 meetings; 2 site visits					$163
	SUBTOTAL					$313
	GRAND TOTAL					$300,517

Fee Estimate Assumptions:

1	Meeting hours include meeting preparation; travel time and minutes.
2	FLO-2D and/or HEC-1 modeling efforts are for two storms: 100-yr and 10-yr, 6-hr.
3	FLO-2D and HEC-1 models will be for existing conditions.
4	Future conditions FLO-2D and HEC-1 is an optional item.
5	Mileage is for meetings and field visits.
6	Storm Water Pollution Prevention Plans are not included.
7	NPDES permits/permitting efforts are not included.
8	Fee assumes a modified consolidated / streamlined approach to model development and review as opposed to the 3 or 4 milestone District 2D review process.